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Notice of Allowability

Application No.

09/828,049

Examiner

Chih-Ching Chow

Applicant(s)

SOULOGLOU ET AL.

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/1/07.
2. ☒ The allowed claim(s) is/are 1-13, 15-16, 18-19, 21.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>11/20/07</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>11/1/07</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

Examiner's Statement of Reasons for Allowance

1. This action is responsive to Applicant's RCE filed on November 1, 2007.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 01, 2007 has been entered.

Information Disclosure Statement

3. The Office acknowledges receipt of the Information Disclosure Statement filed November 01, 2007. It has been placed in the application file and the information referred to therein has been considered.

Examiner's Amendment

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Ronald R. Demsher, Registration Number 42,478, on November 20, 2007, asking for amending system claims in order to obviate any potential 35 USC § 101 rejection, and put the claims in condition for allowance.

The application has been amended as follows:

Claim 10. (Currently amended) A system for generating an intermediate representation of a register-based program code written for running on a programmable machine having a set of registers including at least one variable size register which is addressable by the program code in a plurality of different widths, the system comprising:

memory for storing the intermediate representation of a register-based program code;

means for generating a plurality of register objects each representing a respective one of the registers as referenced by the program code, wherein the at least one variable size register is represented by plural of the register objects with one of the register object being provided for each different width of the variable size register; and

means for generating a plurality of expression objects each representing a respective operator or operand according to the program code relating to the registers; and

means for writing, for each write operation of a certain field width to the variable size register, to the register object of the same width;

means for maintaining a record of which the register objects contain valid data, the record being updated upon each write operation; and

means for determining from the record, for each read operation of a given field width, whether there is valid data in more than one of the associated set of register objects which must be combined to give the same effect as the same read operation performed upon the variable size register, and

(a) if it is determined that no combination is so required, reading directly from the appropriate register object; or

(b) if it is determined that data from more than one register objects must be so combined, combining the contents of those register objects.

Claim 11. (Currently Amended) A system for generating an intermediate representation of program code expressed in terms of the instruction set of a subject processor comprising of at least one variable size register which is accessible by the program code in a plurality of different field widths, the system comprising:

memory for storing the intermediate representation of a register-based program code;

means for generating a set of associated register objects each representing a different field width of the variable size register

means for writing, for each write operation of a certain field width to the variable size register, to the register object of the same width;

means for maintaining a record of which the register objects contain valid data, the record being updated upon each write operation; and

means for determining from the record, for each read operation of a given field width, whether there is valid data in more than one of the associated set of register objects which must be combined to give the same effect as the same read operation performed upon the variable size register, and

(a) if it is determined that no combination is so required, reading directly from the appropriate register object; or

(b) if it is determined that data from more than one register objects must be so combined, combining the contents of those registers objects.

-- The End --

Examiner's Statement of Reason(s) for Allowance

5. Claims 1-13, 15-16, 18-19, and 21 are allowed.

6. The following is an examiner's statement of reasons for allowance:

As Applicant indicates (see Applicant's REMARKS dated 06/13/2006, pages 2-4; and REMARKS dated 12/14/2006, page 9), the prior arts of record does not teach or fairly suggest generating an intermediate representation of a register-based program code that refers to a set of registers within a processor in the manner and combination recited in such a manner as recited in each of the independent claims 1, 8, 10, 11, and 21. The dependent claims are allowable for at least the same reasons.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Ching Chow whose telephone number is 571-272-3693. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Ching Chow
Examiner
Art Unit 2191
November 30, 2007

CC



WEI ZHEN
SUPERVISORY PATENT EXAMINER